

TRAWL GEAR CHARACTERISTICS LOG

This log contains detailed questions about the gear fished. Complete a new log for each uniquely configured gear (as defined below) **hailed** during a trip. These unique configurations may be based on changes made to the length of the headrope, mesh size in the codend, *etc.* Any changes in these fields require the completion of another Trawl Gear Characteristics Log. Do not use the COMMENTS section to explain these differences among gears. Number each gear configuration sequentially.

If the gear is set out and hauled more than once during a trip, do not complete a new Trawl Gear Characteristics Log for the multiple hauls. Rather, record on the Trawl Haul Log which gear numbers are being hauled. In addition, record any other information necessary to understand the manner in which the gear was set/hailed in COMMENTS.

If the vessel has two or more identical gears that are hauled during the trip, complete only one Trawl Gear Characteristics Log, and record the consecutively assigned numbers of all identical gears described in GEAR NUMBER(S) (#1). See the trawl definitions below and GEAR NUMBER(S) (#1) for more information on defining and numbering gears.

If information is unavailable or unknown to any question except a "No/Yes" question, record a dash (-) in the field. If the answer to a "No/Yes" question is unknown, record a "9" on the line next to the code for "No" to indicate that the field was not skipped, but the answer is unknown. If a field relates to a question to which you previously answered "No", leave the field blank.

Become familiar with the following definitions.

DEFINITIONS

Otter Trawl: A device constructed of twine webbing so that when fully assembled and rigged, it will take the shape of a huge funnel while being towed. To spread the mouth so that it will cover the largest possible area, each wing is fastened to a trawl "door". Each door is fitted with chains to be attached to a towing cable from the trawling vessel. The resistance of the water to the forward

motion of the doors, as they are towed at different angles, forces them to pull in opposite directions and thus keep the mouth of the net open.

Square: The section of netting fitted between the top body and the two top wings so that it partially overhangs the FOOTROPE.

Top Wings: Two sections of netting usually shaped diagonally opposite to one another to form the upper mouth of the trawl. The HEADROPE is attached from one top wing end to the other, along the diagonal flymesh edges and across the bosom or center part of the square.

Lower Wings: Two narrow sections of netting fitted between the lower belly and the top wings to form the lower lip of the trawl net. The FOOTROPE is attached from one wing end to the other, along the flymesh edges and across the lower belly bosom meshes. The lower wings are subject to the most abrasion, and consequently they are the sections which have to be continually repaired or replaced when working rough ground.

Codend: Two rectangular pieces of netting made with heavy twine. The top edges are joined to the narrow end of the bellies, the selvages are laced together and a codline or codend clip is woven through the lower meshes for securing the section into a bag where the fish are held until released onboard the trawler.

The codend is the section of a trawl net most often affected by mesh size regulations. The size of the codend depends on the species being targeted and regulations.

Codend Liner: A section of small mesh net sewn into the inside of the codend bag. The purpose of which is to restrict the escapement of smaller species, *i.e.* squid.

Codend Strengtheners: Any material attached to the outside of the codend bag to prevent a full codend from bursting when it is being lifted aboard. This material may be in the form of strengthening ropes, which are attached lengthwise and/or circumferentially to restrict stretching of the codend, or a strengthening/lifting bag, which is a cylinder of netting surrounding the codend. A strengthening bag may also be considered chaffing gear.

Fishing Circle: The section of the net located behind the wings and before the belly. It is the area which creates the largest opening in the net.

Headrope: The line, generally of fiber rope or steel wire rope, which fits along the top wings and center part of the square to form the upper lip of the otter trawl.

Fish Outlet: Used in conjunction with an excluder device in order to provide an opening in the net to facilitate escape of fish, sea turtles, *etc.*

Gear: A trawl, commonly referred to as “the net”. This includes ground cables, headrope, footrope, floats, weights, netting and any attached equipment.

INSTRUCTIONS

For instructions on completing the Header Fields **A, B and D** refer to the Common Haul Log Data section of the NEFSC Observer Program Manual.

1. GEAR NUMBER(S): Record the number(s) assigned to each uniquely configured gear hauled and for which characteristics are described. See the definition of gear in the introduction.

NOTE: If two or more identical gears are used, assign consecutive numbers to each gear and record all of these numbers on one Trawl Gear Characteristics Log. Only one Trawl Gear Characteristics Log is needed to record the characteristics and assigned numbers for all identical gears used.

Example: The first gear is “1”, and its characteristics will be recorded on one Trawl Gear Characteristics Log. Two other nets are used during the trip. These differ from #1, but are identical to each other. They are “2” and “3”, and their characteristics are recorded on a second Trawl Gear Characteristics Log.

DOORS

2. USED?: Record whether doors are used with this gear by placing an “X” next to the appropriate code (see Figure 1):

0 = No.

1 = Yes.

3. WEIGHT: Record, in whole kilograms, the weight of **one** door used with this gear. This information may be obtained from the captain.

CONSTRUCTION MATERIAL

4. TYPE: Record the type of construction material used in the body of the net (excluding the codend) and the codend by placing an “X” next to the appropriate code:

00 = Unknown.

01 = Nylon.

02 = Poly.

03 = Kevlar®.

04 = Spectra®.

05 = Tenex®.

06 = Nomex®.

98 = Combination, record all construction material types on line 4A.

99 = Other, record the construction material type on line 4A.

LENGTH MEASUREMENTS

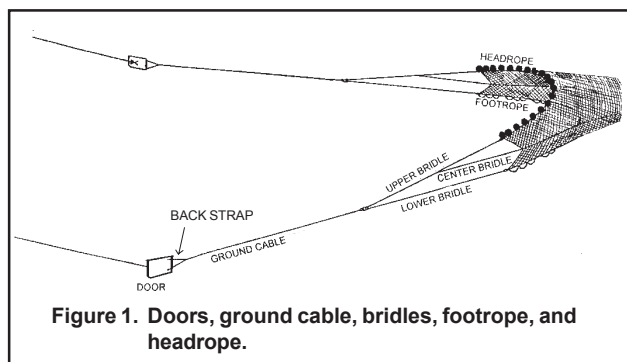
5. HEADROPE: Record, in whole feet, the length of the rope along the top of the net. This information may be obtained from the captain. See Figure 1.

6. FOOTROPE/SWEEP: Record, in whole feet, the length of the rope along the bottom of the net. This information may be obtained from the captain. See Figure 1.

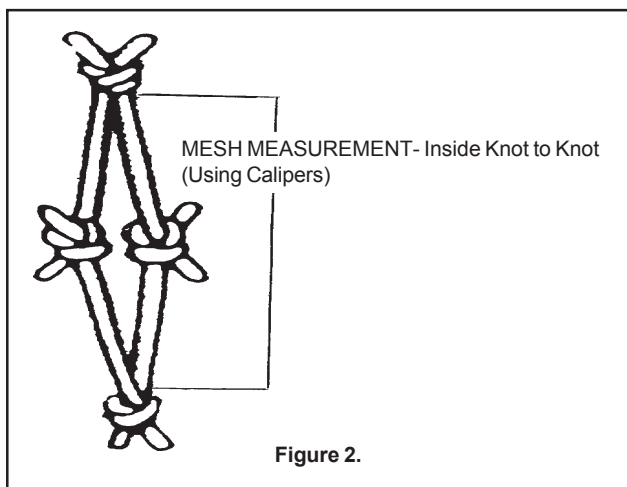
7. GROUND CABLE: Record, in whole feet, the length of the wire connecting the bridles and the back strap. This information may be obtained from the captain. See Figure 1.

FISHING CIRCLE

8. NUMBER OF MESHES: Record the number of meshes in the fishing circle. This information may be obtained from the captain. See Figure 6 for the location of the fishing circle.



9. MESH SIZE: Record, to the nearest tenth of an inch, a randomly selected **inside** mesh measurement from the fishing circle. This information may be obtained from the captain. See Figure 2.



GROUND GEAR

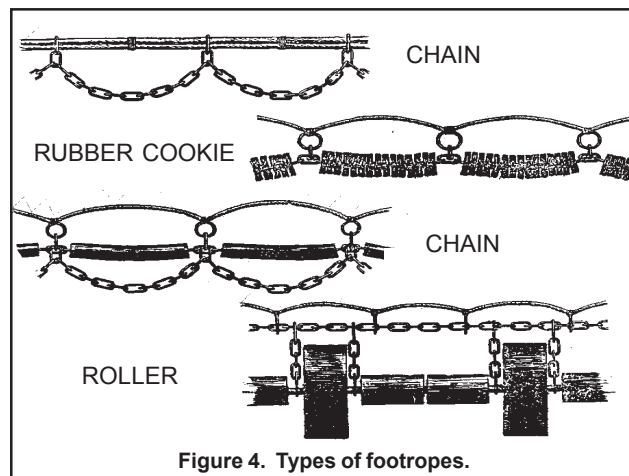
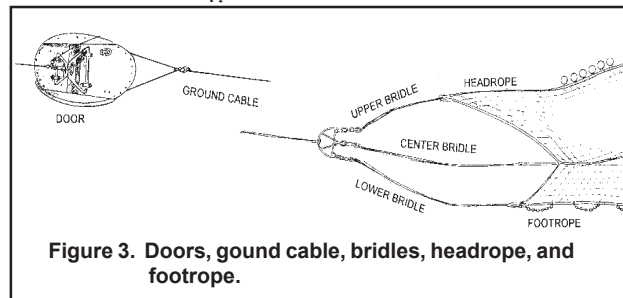
10. TYPE: Record the type of gear making up the ground cable, the bridles/legs, and the footrope by placing an "X" next to the appropriate code (see Figures 1, 3 and 4):

- 0 = Unknown.
- 1 = Chain.
- 2 = Cable/Wire.
- 3 = Wrapped Cable.
- 4 = Rock Hopper.
- 5 = Roller.
- 6 = Rubber Cookie.
- 7 = Bobbin (Half Round).
- 8 = None.
- 9 = Other, record the ground gear type on line 10A.

NOTE: If more than one type of gear is

used on a ground gear piece, record the type of the **LARGEST** piece of gear used. This is not always the longest piece.

Example: If the footrope has 80 feet of 1 inch wire, 25 feet of 3 inch rubber cookies and 15 feet of 5 inch rollers, record "Roller" (5) for FOOTROPE GROUND GEAR TYPE. See Figure 4.



FLOATS

11. NUMBER: Record the total number of floats attached to the headrope.

12. SIZE: Record the diameter, in whole inches, of the majority of floats attached to the headrope.

CODEND

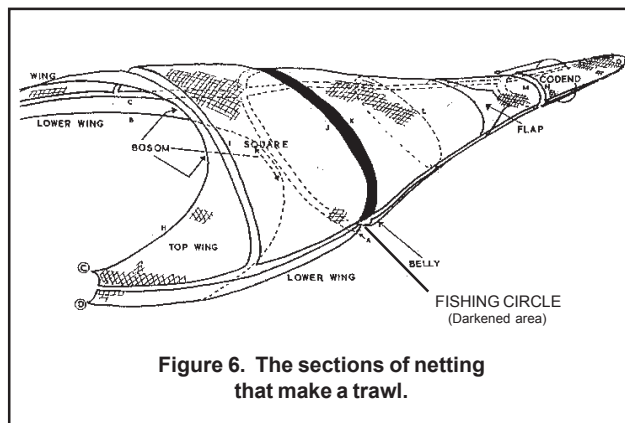
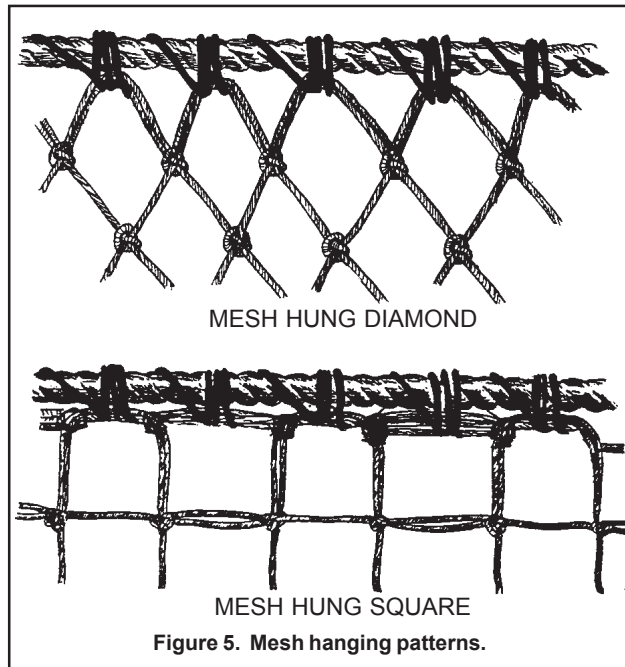
13. HUNG: Record the hanging configuration of the codend by placing an "X" next to the appropriate code:

- 0 = Unknown.
- 1 = Diamond (see Figure 5).

- 2 = Square (see Figure 5).
 3 = Square, Wrapped.
 8 = Combination, record the hanging configuration in COMMENTS.

NOTE: If the codend is wrapped, this is considered chaffing gear. Be sure to record "Yes" (1) for CHAFFING GEAR USED (#19).

NOTE: See Figure 6 for the location of the



codend.

14. TWINE TYPE: Record whether the twine used in the codend is single or double stranded by placing an "X" next to the appropriate code:

- 1 = Single.
 2 = Double.

15. MESH SIZE: Record, in whole millimeters, ten randomly selected **inside** mesh measurements from the codend. These measurements should be taken inside from knot to knot, in the direction in which the mesh is hung. Use calipers for these measurements. See Figure 2 and Appendix P. Vernier Caliper Instructions for further information.

NOTE: These measurements are **not** bar lengths.

16. LINER USED?: Record whether a liner is used inside the net's codend by placing an "X" next to the appropriate code:

- 0 = No.
 1 = Yes.

NOTE: See the gear definitions in the introduction.

17. MESH SIZE: Record, in whole millimeters, a randomly selected **inside** mesh measurement from the liner in the codend. Use calipers for this measurement. See Figure 2 and Appendix P. Vernier Caliper Instructions for further information.

18. STRENGTHENER USED?: Record whether strengthener material is used in the codend of this net by placing an "X" next to the appropriate code:

- 0 = No.
 1 = Yes.

NOTE: See the gear definitions in the introduction.

19. CHAFFING GEAR USED?: Record whether chaffing gear is used on the codend by placing an "X" next to the appropriate code:

- 0 = No.
 1 = Yes.

NOTE: A codend in which the meshes are "wrapped" is considered to have chaffing gear.

A codend with a strengthening bag is also considered to have chaffing gear.

GEAR MOUNTED ELECTRONICS

20. USED?: Record whether any transducers are used on this gear by placing an "X" next to the appropriate code:

- 0 = No.
- 1 = Yes.

21. NUMBER OF TRANSDUCERS: Record the number of transducers used on this gear.

22. TYPE: Record the type of transducer used on this gear by placing an "X" next to the appropriate code:

- 0 = Unknown.
- 1 = Wired.
- 2 = Wireless.

23. BRAND: Record the brand of transducers used on this gear by placing an "X" next to the appropriate code:

- 0 = Unknown.
- 1 = Furuno®.
- 2 = Simrad®.
- 9 = Other, record the transducer brand on line 23A.

24. LOCATION: Record the location of transducers used on this gear by placing an "X" next to the appropriate code (see Figures 1 and 6):

- 0 = Unknown.
- 1 = Headrope.
- 2 = Wings.
- 3 = Footrope.
- 4 = Headrope and Footrope.
- 8 = Other Combination, record all transducer locations on line 24A.
- 9 = Other, record the transducer location on line 24A.

25. NUMBER OF RECEIVERS: Record the **total** number of receivers used on this vessel for the transducer(s).

EXCLUDER/SEPARATOR DEVICE

26. USED?: Record whether an excluder or separator device is used on this gear by placing an "X" next to the appropriate code (see Figure 7):

- 0 = No.
- 1 = Yes.

27. TYPE: Record the type of excluder or separator device used on this gear by placing an "X" next to the

appropriate code:

- 0 = Unknown.
- 1 = Nordmore Grate (see Figure 7).
- 2 = T.E.D. (see Figure 8).
- 3 = Separator Panel.
- 4 = Guiding Device, *i.e.*, a funnel or "flap" (see Figure 7).
- 5 = Raised Footrope.
- 8 = Combination, record all excluder/separator device types on line 27A.
- 9 = Other, record the excluder/separator device type on line 27A.

NOTE: For Nordmore grates, record whether the outlet is on the top or bottom in COMMENTS.

FISH OUTLET

28. USED?: Record whether a fish outlet is used on this gear by placing an "X" next to the appropriate code (see Figure 7):

- 0 = No.
- 1 = Yes.

29. LENGTH: Record, in whole inches, the length of the fish outlet from the front to the back of the net.

NOTE: If the outlet shape is triangular, record the length of the side of the triangle, which runs from the front to the back of the net.

30. WIDTH: Record, in whole inches, the width of the fish outlet from side to side of the net.

NOTE: If the outlet shape is triangular, record the length of the side of the triangle which runs from side-to-side in the net.

31. SHAPE: Record the shape of the fish outlet by placing an "X" next to the appropriate code:

- 00 = Unknown.
- 01 = Rectangular.
- 06 = Square.
- 07 = Diamond.
- 08 = Triangular.
- 99 = Other, record the fish outlet shape on line 31A.

32. LOCATION: Record the location of the fish outlet used on this gear by placing an "X" next to the ap-

appropriate code:

- 0 = Unknown.
- 1 = Top.
- 2 = Bottom.
- 3 = Side.
- 8 = Combination, record all fish outlet locations on line 32A.
- 9 = Other, record the fish outlet location on line 32A.

more room is needed, use the back of this log, making sure to write "See Back" on the front of the log. Reference each comment with its corresponding field name.

If net name and/or manufacturer is known, record this information in COMMENTS.

COMMENTS

Record any additional information about this gear, *i.e.*, unusual arrangements of the gear, whether the Nordmore Grate outlet is on the top or bottom, *etc.* If

